

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Smith, Debra J. C.
CARNAUDMETALBOX PLC
Downsview Road
Wantage
Oxfordshire OX12 9BP
GRANDE BRETAGNE

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)
10/519915

Date of mailing
(day/month/year)

15.10.2004

Applicant's or agent's file reference
W0243WO ✓

IMPORTANT NOTIFICATION

International application No.
PCT/EP 03/07798

International filing date (day/month/year)
26.06.2003

Priority date (day/month/year)
03.07.2002

Applicant
CROWN CORK & SEAL TECHNOLOGIES CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Micheli, M

Tel. +31 70 340-3606



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference W0243WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/07798	International filing date (day/month/year) 26.06.2003	Priority date (day/month/year) 03.07.2002
International Patent Classification (IPC) or both national classification and IPC B65D65/46		
Applicant CROWN CORK & SEAL TECHNOLOGIES CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 7 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21.11.2003	Date of completion of this report 15.10.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Bridault, A Telephone No. +31 70 340-3224 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/07798

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-4, 6 as originally filed
5, 7, 8 received on 03.05.2004 with letter of 28.04.2004

Claims, Numbers

1-12 received on 03.05.2004 with letter of 28.04.2004

Drawings, Sheets

1/4-3/4 as originally filed
4/4 received on 03.05.2004 with letter of 28.04.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/07798**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: WO 01/83668 A

D2: EP-A-0 593 952

D3: GB-A-2 356 842

D4: WO 01/36290 A

D1, D2, D3 and D4 all disclose containers from which the subject-matter of claim 1 differs by the features of the characterising part.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as releasing the container contents more quickly.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT), since no prior art document suggests to have a releasable part of the container wall connected to the remainder of said wall by a part which dissolves more quickly, thereby enabling the releasable part to be released as soon as said quickly dissolving part has been dissolved.

Claims 2-12 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Where a container has several walls, the term "wall" can refer to any one or more of the walls. A spherical container, for example, has a single wall whereas a cube has six walls. The term is therefore generic and could
5 refer to any part of the material defining the chamber.

The present invention will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

Fig 1 is a perspective view of a housing formed as
10 part of a container according to a first embodiment;

Fig 2 is a section along line II - II of Fig 1,

Fig 3 shows the housing of Fig 2 with a lid component attached;

Fig 4 shows the container of Fig 3 following an
15 initial exposure to water;

Fig 5 is a section through a container according to an alternative embodiment;

Fig.6 is a section of a container according to an alternative embodiment; and

20 Referring first to Figs 1 and 2 there is shown a housing 10 of generally parallelopiped shape comprising a base wall 11, side walls 12, 13 and end walls 14, 15. The housing is hollow and is open opposite the base 11 to form a tray-like structure. The housing 10 is formed
25 from a water-soluble material. The material could be, for example, a grade of PVOH which dissolves at approximately 50°C. The interior of the housing 10 is divided into two discrete chambers 30, 31 by spaced

dissolution temperature of the container material. As the container 1 begins to dissolve the material thinned regions 20, 27 will completely dissolve before the remainder of the container. As a result, the panels 19, 26 are released from the lid 25 and the base wall 14 such that product can escape from the chamber 31. Of course the panels 19, 26 do not have to be completely released to be effective. For example the material thinned regions 20, 27 could extend part way round the panels 19, 26 such that the panels 19, 26 become flaps which hinge open. Product from the chamber cannot escape until the remainder of the container has dissolved.

Referring now to Fig 5 there is shown an alternative embodiment. In this embodiment two discrete chambers 130, 131 are formed from two separate, hollow cube-shape housings 110a, 110b which are bonded together along adjacent side walls 112a, 112b. Each housing 110a, 110b is open along one side but closed by a lid 125a, 125b, in this embodiment sealed to the housings by adhesion. The lids 125a, 125b are formed from different grades of PVOH which dissolve at different rates, with the material of the lid 125a having the faster dissolution rate. In this embodiment therefore the lid 125a of the housing 110a dissolves before the lid of housing 110b, to allow its product to escape first.

Referring to Fig.6 there is shown a container 201 with a single chamber 230. A generally cuboid housing 210 comprises a base wall 211 and side walls 214, 215. An open side of the housing 210 is closed by a lid 225.

The lid 225 is held onto the housing 210 by a clip 220 extending from its periphery. The clip 220 engages under a bead 235 formed around the open side of the housing 210.

5 The clip 220 is thinner than the remainder of the container 201. Accordingly, in use of the container the clip 220 dissolves before the remainder of the container so that the bead 235 no longer retains the lid 225, and therefore allows the lid 225 to be released from the
10 housing 210.

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CLAIMS:

1. A water-soluble container (1) comprising one or more discrete chambers (30, 31) for containing product, wherein at least part (20, 27) of a wall (11, 25) of each chamber is adapted to dissolve before the remainder of the chamber to allow product to escape, characterised in that the at least part (20, 27) of the wall (11, 25) adapted to dissolve before the remainder of each chamber defines a releasable part (19, 26), such that when the at least part of the wall dissolves the releasable part is released undissolved.
2. A container (1) according to Claim 1, wherein the releasable part is a panel (19, 26) and the at least part of the wall at least partly surrounds the panel, such that the panel is released when the part of the wall has dissolved.
3. A container (201) according to any preceding claim, wherein the at least part of the wall (225) comprises one or more clip elements (220) adapted to retain the releasable part (225) until dissolved.
4. A container (1) according to any preceding claim, wherein the at least part (20, 27) of the wall is thinner than the remainder of the container.

5. A container (1) according to Claim 4, wherein the material thinning (20, 27) is arranged on the interior surface of the chamber wall.
6. A container (1) according to any preceding claim, wherein the container is formed by injection moulding.
7. A container (1) according to any preceding claim, wherein at least part of the material from which the container is formed is a polyvinyl alcohol.
8. A container (1) according to any preceding claim, wherein at least part of the material from which the container is formed is a polylactic acid.
9. A container (1) according to any proceeding claim, wherein at least part of the material from which the container is formed is starch-based.
10. A container (1) according to any preceding claim, wherein the whole of the container is formed from the same material.
11. A container (1) according to any preceding claim, wherein the container is flexible.
12. A container according to any preceding claim, comprising two or more chambers, wherein each chamber has a releasable part and each releasable part dissolves at

different rates so that the products contained in the chambers are allowed to escape sequentially.

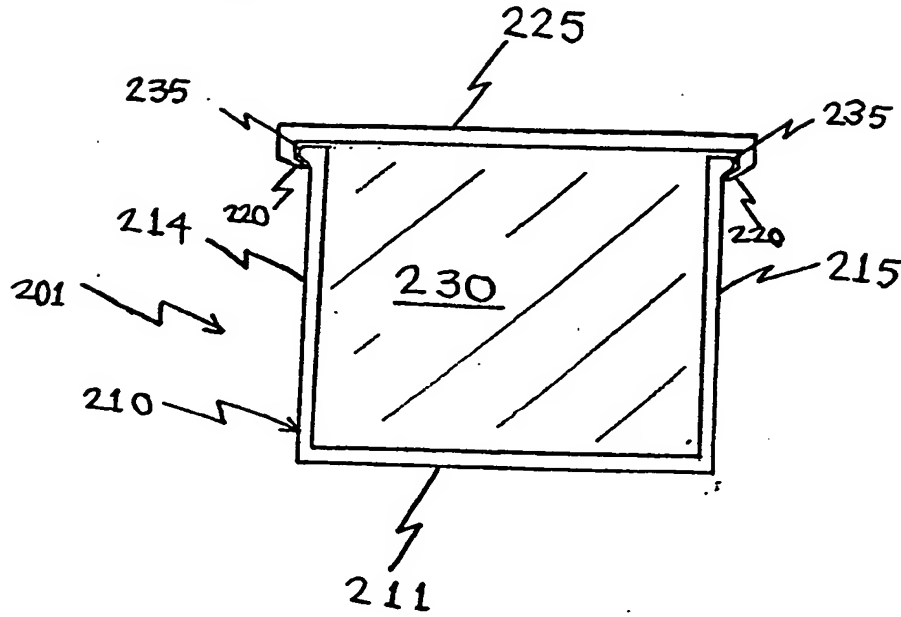


FIG 6